



Chicago Metropolitan Agency for Planning

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MEMORANDUM

To: Transportation Committee

From: Tom Murtha

Date: April 19, 2011

Re: Changes to National Highway System Intermodal Freight Connectors – Request Recommendation to Policy Committee

CMAP staff requests that the Transportation Committee recommend Policy Committee endorsement of changes to the National Highway System intermodal freight connectors. These modifications reflect changes in rail container terminal facilities and access to those terminals. CMAP staff has consulted with local communities and railroad companies regarding these proposed changes.

Background:

The U.S. Department of Transportation designates certain roads as part of the National Highway System. The system consists of the Interstate highway system, principal arterials, designated highways providing access to national defense facilities, and intermodal connectors. Intermodal connectors are public roads leading to major terminals for freight and passengers. Connectors are key conduits for national and international trade. For metropolitan Chicago, the last update of intermodal connectors occurred in 1999.

The primary purpose of designating roads as National Highway System intermodal connectors is to identify the roads as being of national importance. In addition, the designation makes the roads eligible for National Highway System funding by the Illinois Department of Transportation. However, IDOT has indicated that funding for roadway improvements will be based on merit and identified need regardless of program eligibility.

If they are endorsed by the MPO Policy Committee, the recommended changes will be submitted to the Illinois Department of Transportation. IDOT will then submit the endorsed changes to the U.S. Department of Transportation for final approval.

This recommendation is part of CMAP's efforts to update the region's truck route system. Other work on this project includes recommendations to changes in highway functional class and the designated Class II truck routes system.

Recommended additions, deletions, and modifications to the National Highway System are below. A full report on these recommendations is attached.

Requested Recommendation:

Additions to the National Highway System:

Action	Terminal	Road	Limits	Miles	Explanation
Addition	BNSF Logistics Park Chicago	Arsenal Road	Relocated I-55 Interchange to Baseline Road	+3.74	New Terminal
Addition	BNSF Logistics Park Chicago	Baseline Road	Arsenal Road to BNSF Logistics Park Chicago Exit Gate	+2.87	New Terminal
Deletion	BNSF Auto Transload (IL27R)	Jefferson Avenue	IL 59 to Fort Hill Drive	-0.55	Closed Terminal
Deletion	BNSF Auto Transload (IL27R)	Fort Hill Dr.	Jefferson Avenue to Entrance Gate	-0.21	Closed Terminal
Deletion	CN Gateway Intermodal Terminal (IL122R)	West Avenue (Connector 1)	Entrance to 159 th Street	-0.07	Closed Gate
Deletion	CN Gateway Intermodal Terminal (IL122R)	West Avenue (Connector 2)	Entrance to 157 th Street	-0.16	Closed Gate
Deletion	CN Gateway Intermodal Terminal (IL122R)	157 th Street (Connector 2)	West Avenue to Park Avenue	-0.08	Closed Gate
Deletion	CN Gateway Intermodal Terminal (IL122R)	Park Avenue (Connector 2)	157 th Street to 159 th Street	-0.26	Closed Gate
Modification	Water Terminal 2 – Lake Calumet (IL30P)	Stony Island Avenue (Connector 1)	Existing: 130th St to 103rd St/I-94 Ramps Recommended: 122 nd to 103 rd St/I-94 Ramps	-1.02	Reflect Current Traffic and Future Plans

ACTION REQUESTED: Recommend Policy Committee Endorsement

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Attachment

National Highway System Intermodal Freight Connectors Proposal Evaluation Using Guidance Criteria for NHS Connectors 23 CFR 470A, Appendix D

Connector System: BNSF Logistics Park: Addition

Route: Baseline Road from terminal exit to Arsenal Road; Arsenal Road from Baseline Road to relocated interchange with I-55.

Criterion 1: *Proposed additions to the NHS should be included in either an adopted State or metropolitan transportation plan or program.* CMAP staff is seeking MPO Policy Committee endorsement of the proposed additions and deletions to the National Highway System. This endorsement will be included in the documentation for our metropolitan program.

Criterion 2: *Proposed additions should connect at each end with other routes on the NHS or serve a major traffic generator.* The connector will begin at Logistics Park Chicago, a major national freight distribution center on the site of the former Joliet Arsenal in Will County, Illinois. A BNSF intermodal terminal handling mostly international containers from the west coast is on the site; the connector begins at the facility exit gate. In 2009, this facility handled more than 700,000 lifts, or 1.5 million twenty-foot equivalent units. This terminal is the second busiest container terminal in metropolitan Chicago. In addition, the Arsenal Road segment of the connector will serve the Union Pacific Railroad's Joliet Intermodal Terminal, which opened in late 2010, and which has the capacity for an additional 500,000 lifts.

Criterion 3: *Proposals should be developed in consultation with local and regional officials.* The metropolitan planning process included extensive consultation with local officials. Officials in Will County, the City of Joliet, and the Village of Elwood were consulted, as were railroad representatives for the Union Pacific and BNSF railroads, the CMAP Freight Committee, and CenterPoint Properties, the developer of the logistics park.

Criterion 4: *Proposals to add routes to the NHS should include information on the type of traffic served (i.e., percent of trucks, average trip length, local, commuter, interregional, interstate) by the route, the population centers or major traffic generators served by the route, and how this service compares with existing NHS routes.* The Arsenal Road ADT is 8,600. Twelve-hour truck turning counts for intersections near the BNSF facility in 2009 (before the UP facility opened) indicate that the July bi-directional combination-truck volume was approximately 1,000, or 12% of the Arsenal Road ADT. Light trucks make up an additional 2,600 vehicles, bringing the total trucks to 3,600, or 42% of ADT. The BNSF facility serves mostly international containers. Directionally, at the existing I-55 interchange, approximately 89% of the combination-trucks are oriented to and from the north, in the direction of Chicago. Metropolitan Chicago has a population in excess of 8,000,000. Thus, this route is comparable or somewhat more important than existing NHS intermodal freight connectors in the Chicago area.

Criterion 5: *Proposals should include information on existing and anticipated needs and any planned improvements to the route.* Baseline Road and Arsenal Road were recently reconstructed to facilitate the truck traffic generated by the logistics park. The reconstruction included a highway-rail grade separation for Arsenal Road. Additional needed improvements include a

reconstructed I-55/Arsenal Road interchange. This interchange does not have sufficient taper length for ramps to and from the north; the north approach to the interchange is the south approach to a bridge over the Illinois Waterway. This bridge approach includes a substantial grade, owing to the need for sufficient clearance for shipping on the Illinois Waterway under I-55. An aerial photo of this area as it now exists is shown as Figure 1.

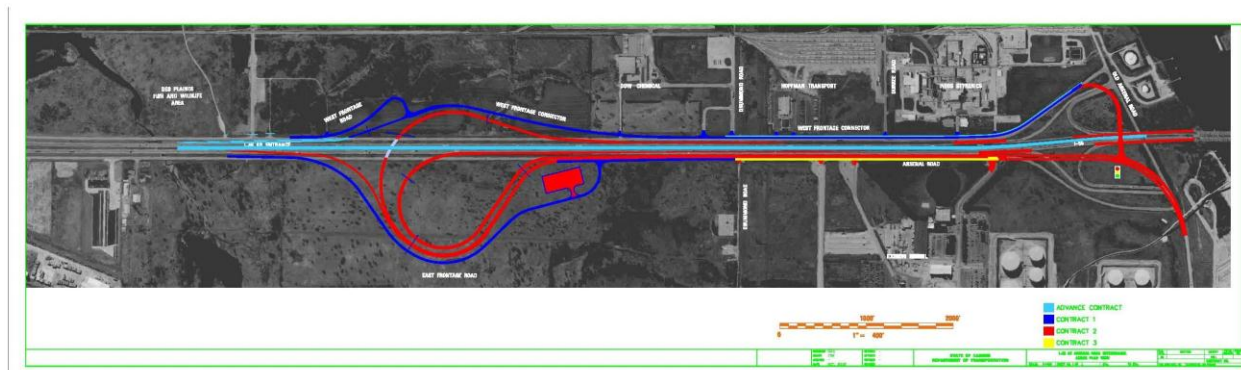
Figure 1. Existing Arsenal Road Interchange,



Source: Illinois Department of Transportation: <http://www.dot.state.il.us/I55arsenal/photo.html>.

In a \$68.7 million improvement now under way, this interchange is being relocated to the south to improve the safety and operations of this truck-sensitive access point. The extension of Arsenal Road and the relocated interchange will facilitate smoother truck merging operations and improve safety. The relocation project is shown as Figure 2.

Figure 2. Arsenal Road Interchange Improvement (Under Construction)



Source: Illinois Department of Transportation: <http://www.dot.state.il.us/I55arsenal/location.html>.

Criterion 6: *Proposals should include information concerning the possible effects of adding or deleting a route to or from the NHS might have on other existing NHS routes that are in close proximity. Aside from I-55, to which this route will connect, no other NHS routes serve the Joliet Intermodal Terminal.*

Criterion 7: *Proposals to add routes to the NHS should include an assessment of whether modifications (adjustments or deletions) to existing NHS routes, which provide similar service, may be appropriate. No existing NHS routes provide similar service.*

Criterion 8: *Proposed modifications that might affect adjoining States should be developed in cooperation with those States. This proposal affects no other state.*

Criterion 9: *Proposed modifications consisting of connections to major intermodal facilities should be developed using the criteria set forth below. These criteria were used for identifying initial NHS connections to major intermodal terminals. The primary criteria are based on annual passenger volumes, annual freight volumes, or daily vehicular traffic on one or more principal routes that serve the intermodal facility. The secondary criteria include factors which underscore the importance of an intermodal facility within a specific State.*

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Primary Criterion: Truck/Rail

1. *50,000 TEUs per year, or 100 trucks per day, in each direction on the principal connecting route, or other units measured that would convert to more than 100 trucks per day in each direction. (Trucks are defined as large single-unit trucks or combination vehicles carrying freight.)*

The route handles approximately 1000 combination trucks per day, well over the minimum established above. In addition, the BNSF facility handles 1.5 million TEUs annually, far in excess of the minimum established above.

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Secondary Criteria:

Any of the following criteria could be used to justify an NHS connection to an intermodal terminal where there is a significant highway interface:

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3. *Significant investment in, or expansion of, an intermodal terminal; or*
4. *Connecting routes targeted by the State, MPO, or others for investment to address an existing, or anticipated, deficiency as a result of increased traffic.*

3. Neither the BNSF Logistics Park Chicago nor the UP Joliet Intermodal Terminal existed at the time of the last update of NHS intermodal connectors, in 1999. The investment in these sites and the two broader logistics park sites is expected to be over \$3 billion.

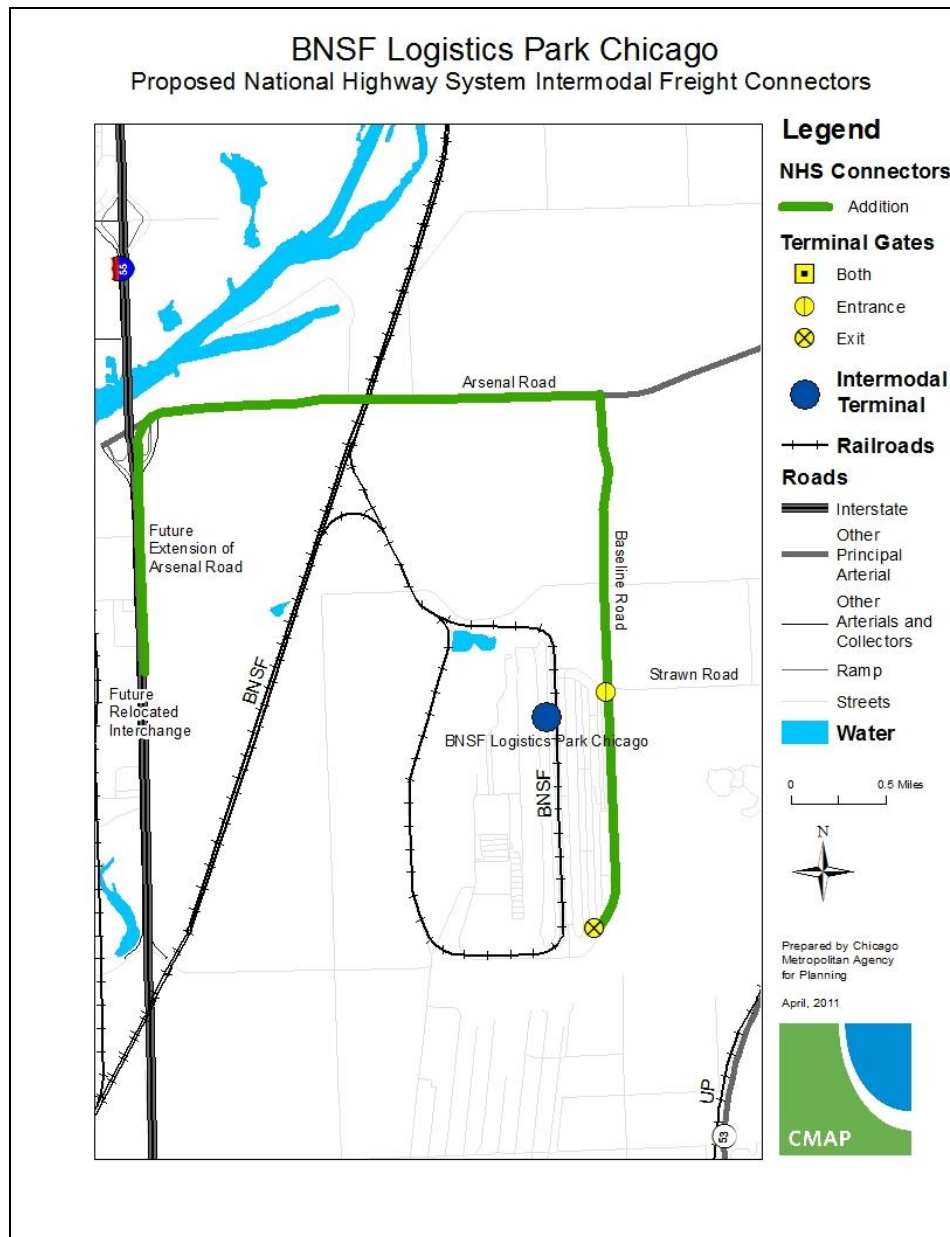
4. Arsenal Road and Baseline Road improvements have already taken place to accommodate additional truck traffic. These improvements include a highway-rail grade separation. In

addition, IDOT has commenced work to improve and relocate the interchange of I-55 and Arsenal Road, as outlined above.

Proposal Map

A map of the proposed addition to the National Highway System Intermodal Connector for the BNSF Logistics Park Chicago terminal is shown as Figure 3.

Figure 3. Proposal Map



Connector System: BNSF Auto Transload (IL27R) Deletion

Route: Jefferson Avenue from IL 59 to Fort Hill Drive; Fort Hill Drive from Jefferson Avenue to Entrance Gate.

Criterion 1: *Proposed additions to the NHS should be included in either an adopted State or metropolitan transportation plan or program.* CMAP staff is seeking MPO Policy Committee endorsement of the proposed additions and deletions to the National Highway System. This endorsement will be included in the documentation for our metropolitan program.

Criterion 2: *Proposed additions should connect at each end with other routes on the NHS or serve a major traffic generator.* The BNSF Auto Transload site is now closed. Thus, this route no longer connects to a major traffic generator and should be deleted from the National Highway System.

Criterion 3: *Proposals should be developed in consultation with local and regional officials.* The metropolitan planning process included extensive consultation with local officials. Officials in Naperville were consulted, as were members of the CMAP Freight Committee.

Criterion 4: *Proposals to add routes to the NHS should include information on the type of traffic served (i.e., percent of trucks, average trip length, local, commuter, interregional, interstate) by the route, the population centers or major traffic generators served by the route, and how this service compares with existing NHS routes.* This route now serves only local and regional traffic.

Criterion 5: *Proposals should include information on existing and anticipated needs and any planned improvements to the route.* No improvements to Jefferson Avenue or Fort Hill Drive are anticipated at this time.

Criterion 6: *Proposals should include information concerning the possible effects of adding or deleting a route to or from the NHS might have on other existing NHS routes that are in close proximity.* No other NHS route served the BNSF Auto Transload Facility.

Criterion 7: *Proposals to add routes to the NHS should include an assessment of whether modifications (adjustments or deletions) to existing NHS routes, which provide similar service, may be appropriate.* No existing NHS routes provided similar service to the BNSF Transload facilities.

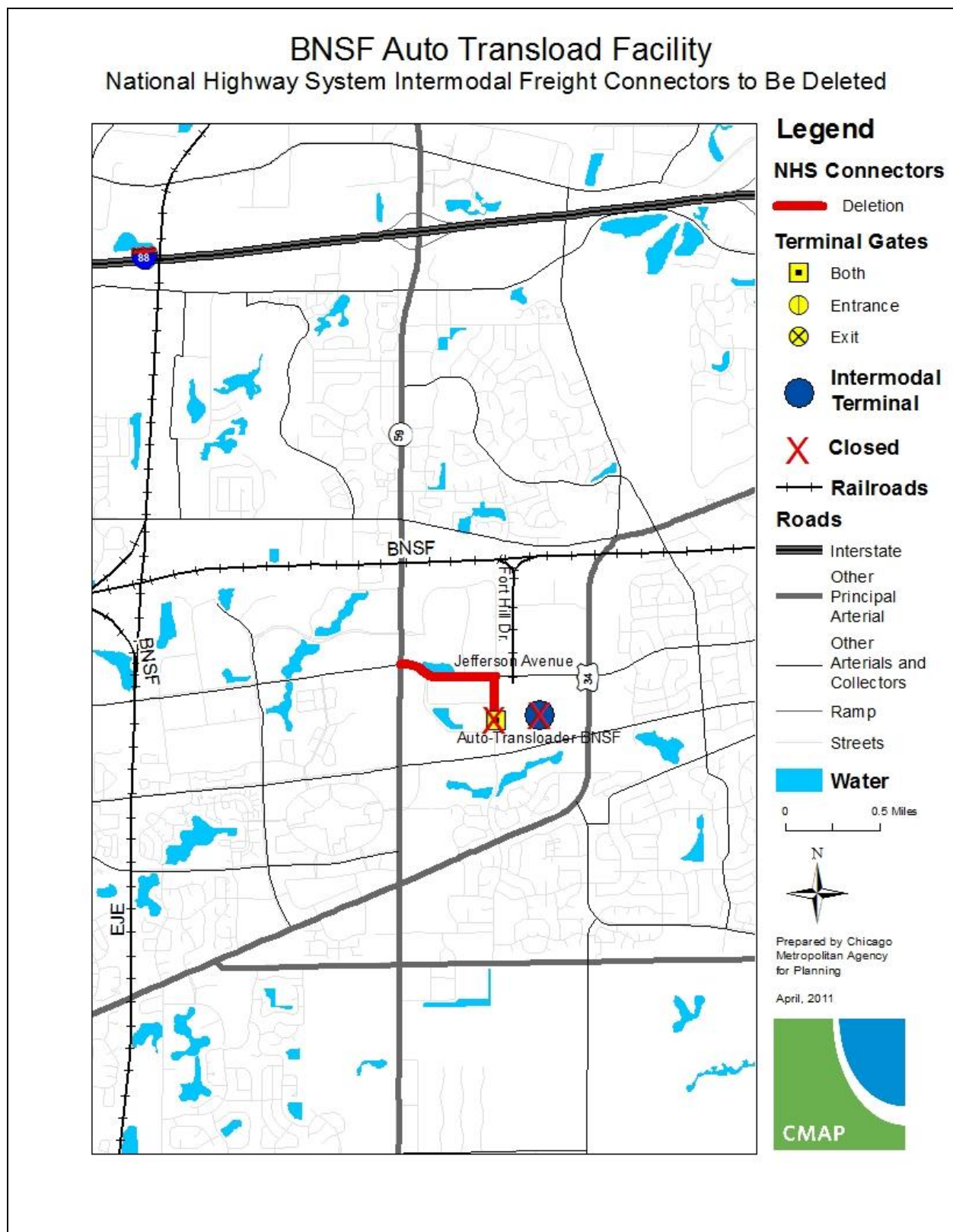
Criterion 8: *Proposed modifications that might affect adjoining States should be developed in cooperation with those States.* This proposal affects no other state.

Criterion 9: *Proposed modifications consisting of connections to major intermodal facilities should be developed using the criteria set forth below. These criteria were used for identifying initial NHS connections to major intermodal terminals. The primary criteria are based on annual passenger volumes, annual freight volumes, or daily vehicular traffic on one or more principal routes that serve the intermodal facility. The secondary criteria include factors which underscore the importance of an intermodal facility within a specific State.* The intermodal terminal is now closed. The NHS Connector route should therefore be deleted.

Proposal Map

A map of the proposed addition to the National Highway System Intermodal Connector for the BNSF Logistics Park Chicago terminal is shown as Figure 4.

Figure 4. Proposal Map



Connector System: CN Gateway Intermodal Terminal (IL122R) Deletions

Route1: West Avenue from terminal gate to 159th Street.

Route 2: West Avenue from terminal gate to 157th Street; 157th Street from West Avenue to Park Avenue; Park Avenue from 157th Street to 159th Street.

Criterion 1: *Proposed additions to the NHS should be included in either an adopted State or metropolitan transportation plan or program.* CMAP staff is seeking MPO Policy Committee endorsement of the proposed additions and deletions to the National Highway System. This endorsement will be included in the documentation for our metropolitan program.

Criterion 2: *Proposed additions should connect at each end with other routes on the NHS or serve a major traffic generator.* The gate to the CN Gateway Terminal has been relocated to south of 159th Street. Therefore, this connector is no longer necessary. Other approved NHS freight connector routes serve this relocated gate. In the past, the CN Gateway Intermodal Terminal was comprised of two separate terminals, CN Gateway and Illinois Central Moyers. These terminals are now a single operation, reflecting the merger of the Illinois Central and CN.

Criterion 3: *Proposals should be developed in consultation with local and regional officials.* The metropolitan planning process included extensive consultation with local officials. Officials and consultants in Harvey were consulted, as was a representative of the CN Railway.

Criterion 4: *Proposals to add routes to the NHS should include information on the type of traffic served (i.e., percent of trucks, average trip length, local, commuter, interregional, interstate) by the route, the population centers or major traffic generators served by the route, and how this service compares with existing NHS routes.* These routes now serve only local and regional traffic.

Criterion 5: *Proposals should include information on existing and anticipated needs and any planned improvements to the route.* No improvements are planned along West Avenue, Park Avenue, or 157th Street. An improvement to the existing NHS route, 159th Street, is under way. In addition, an improvement to 167th Street and to Center Avenue has been proposed to accommodate the relocated gate. Pavement conditions along 167th Street are not very suitable for trucking.

Criterion 6: *Proposals should include information concerning the possible effects of adding or deleting a route to or from the NHS might have on other existing NHS routes that are in close proximity.* The terminal gate has been relocated to a location served by other NHS intermodal freight connectors.

Criterion 7: *Proposals to add routes to the NHS should include an assessment of whether modifications (adjustments or deletions) to existing NHS routes, which provide similar service, may be appropriate.* No new routes are proposed for the NHS at this location at this time. CMAP staff will continue to participate in ongoing studies of this site and will re-evaluate the need for additional NHS connectors in the future.

Criterion 8: *Proposed modifications that might affect adjoining States should be developed in cooperation with those States.* This proposal affects no other state.

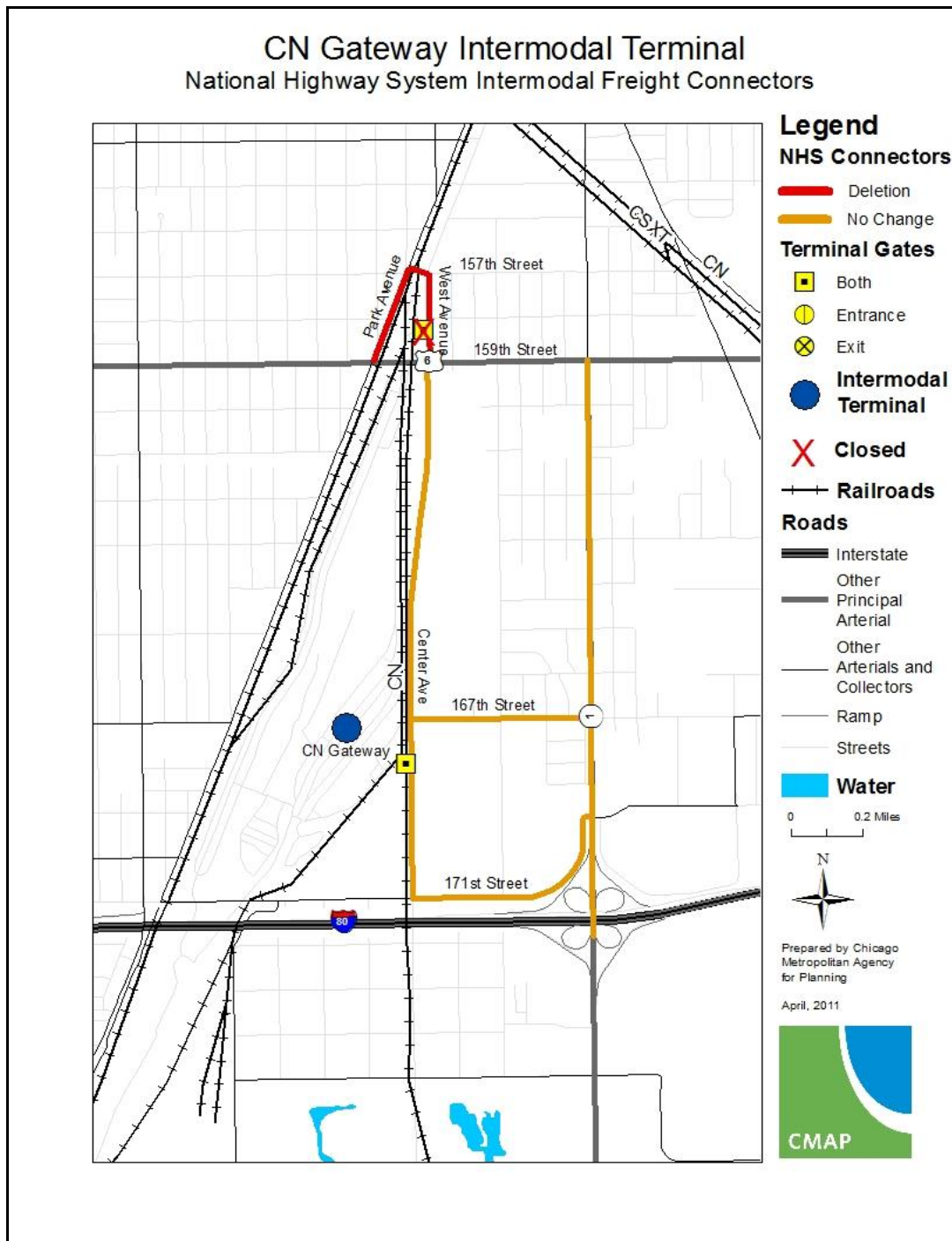
Criterion 9: *Proposed modifications consisting of connections to major intermodal facilities should be developed using the criteria set forth below. These criteria were used for identifying initial NHS connections to major intermodal terminals. The primary criteria are based on annual passenger volumes, annual freight volumes, or daily vehicular traffic on one or more principal routes that serve the*

intermodal facility. The secondary criteria include factors which underscore the importance of an intermodal facility within a specific State. The intermodal terminal gate on West Avenue is now closed. The NHS Connector routes should therefore be deleted.

Proposal Map

A map of the proposed deletions to the National Highway System Intermodal Connector for the CN Gateway Terminal is shown as Figure 5.

Figure 5. Proposal Map



Connector System: Water Terminal 2 – Lake Calumet Connector 1 – Stony Island Avenue (IL30P1)

Existing Route (Federal Definition): Stony Island Avenue from 130th Street to 103rd Street I-94 Ramps.

Existing Route (Original CATS proposal): Stony Island Avenue from Entrance (south of 122nd) to 103rd Street

Proposed Route: Stony Island Avenue from 122nd Street to 103rd Street

Criterion 1: *Proposed additions to the NHS should be included in either an adopted State or metropolitan transportation plan or program.* CMAP staff is seeking MPO Policy Committee endorsement of the proposed additions and deletions to the National Highway System. This endorsement will be included in the documentation for our metropolitan program.

Criterion 2: *Proposed additions should connect at each end with other routes on the NHS or serve a major traffic generator.* Traffic counts from 2009 indicate that intermodal traffic enters this segment of Stony Island at 122nd Street, not at a gate to the south. Further, there was some confusion in the federal definition of this connector, the map and description extending the route across the mouth of Lake Calumet, west of Turning Basin 5. This connection does not exist and is not planned. Therefore, the approved list of connectors needs to be updated.

Criterion 3: *Proposals should be developed in consultation with local and regional officials.* The metropolitan planning process included consultation with local officials. Officials in the City of Chicago were consulted, as was the CMAP Freight Committee.

Criterion 4: *Proposals to add routes to the NHS should include information on the type of traffic served (i.e., percent of trucks, average trip length, local, commuter, interregional, interstate) by the route, the population centers or major traffic generators served by the route, and how this service compares with existing NHS routes.* This facility serves the water terminal cluster on the east side of Lake Calumet, so there is a substantial amount of freight oriented to the Port of Chicago. The primary gate to this facility is at the intersection of 122nd Street and Stony Island Avenue.

CMAP prepared an analysis of water freight volumes as part of its Freight Snapshot. This analysis, based on the U.S. Army Corps of Engineers 2008 *Waterborne Commerce of the United States*, shows that 2008 water freight flows to Lake Calumet totaled 1,136,000 tons.¹ Of this, 546,000 tons were lakewise or international, via Lake Michigan, bound for Lake Calumet; 480,000 tons were upbound to Lake Calumet from the Illinois Waterway, while the remaining 110,000 tons originated at Lake Calumet. This data demonstrates the interstate and international orientation of a substantial amount of freight on Lake Calumet.

CMAP knows of two sets of vehicle counts on this connector. The results of these counts are shown in Table 1, on the next page. The table shows that most of the Stony Island Avenue truck traffic from the water terminal is north of 122nd Street. This is consistent with the proposal to change the south limit of the National Highway System Intermodal Freight Connector on Stony Island Avenue to 122nd Street.

¹ See [Diagram: 2008 Waterborne Commerce on the Illinois Waterway and the Port of Chicago- Flow of Commerce in Tons](http://www.cmap.illinois.gov/freight-snapshot) (pdf, 400 kb, Prints to E-Sized Sheet), posted at <http://www.cmap.illinois.gov/freight-snapshot>.

Table 1. Truck Counts, Stony Island Avenue.

Date and Type of Count	Data	Stony Island Avenue North of 122 nd Street	Stony Island Avenue South of 122 nd Street	122 nd Street East of Stony Island Avenue
4/14/2010. IDOT Traffic Count Database System – 24 Hour Hi-Star Count	24-hour total volume, raw count	1,946	235	2,690
Ditto	Classification – Vehicle Length – 40+ Feet, raw count (24-hour)	325	20	506
Ditto	Percent Trucks (>40 Feet)	16.7%	8.5%	18.8%
6/9/2009. CMAP Summer Data Collector 12-hour Turning Vehicle Count (Trucks Only)	Trucks, Derived from Turning Vehicle Truck Counts (12-hour)	304	62	524

Sources: IDOT: <http://www.ms2soft.com/tcds/tsearch.asp?loc=Idot&mod=TCDS> (searched for Stony Island Ave and 122nd Street); CMAP: unpublished data, 2009.

Criterion 5: *Proposals should include information on existing and anticipated needs and any planned improvements to the route.* No known improvements are planned along this facility. No bridge is planned to match that shown on FHWA depictions of the Stony Island Avenue NHS connector. However, Stony Island Avenue south of 122nd Street is substantially deteriorated.

Criterion 6: *Proposals should include information concerning the possible effects of adding or deleting a route to or from the NHS might have on other existing NHS routes that are in close proximity.* This proposal to establish 122nd Street as the south terminus of “Connector 1” has no impact on the “Connector 3,” also on Stony Island Avenue. Connector 3 serves the water terminal cluster on the south and west side of Lake Calumet. No changes to Connector 3 (IL30P3) or Connector 2 (122nd street, IL30P2) are proposed.

Criterion 7: *Proposals to add routes to the NHS should include an assessment of whether modifications (adjustments or deletions) to existing NHS routes, which provide similar service, may be appropriate.* This proposal represents a modification to an existing route. The remaining public roads serving the water terminal cluster each have several hundred trucks per day.

Criterion 8: *Proposed modifications that might affect adjoining States should be developed in cooperation with those States.* This proposal affects no other state.

Criterion 9: *Proposed modifications consisting of connections to major intermodal facilities should be developed using the criteria set forth below. These criteria were used for identifying initial NHS connections to major intermodal terminals. The primary criteria are based on annual passenger volumes, annual freight volumes, or daily vehicular traffic on one or more principal routes that serve the intermodal facility. The secondary criteria include factors which underscore the importance of an intermodal facility within a specific State.*

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Primary Criterion: Ports

Ports

- 1. Terminals that handle more than 50,000 TEUs (a volumetric measure of containerized cargo which stands for twenty-foot equivalent units) per year, or other units measured that would convert to more than 100 trucks per day in each direction. (Trucks are defined as large single-unit trucks or combination vehicles handling freight.)*
- 2. Bulk commodity terminals that handle more than 500,000 tons per year by highway or 100 trucks per day in each direction on the principal connecting route. (If no individual terminal handles this amount of freight, but a cluster of terminals in close proximity to each other does, then the cluster of terminals could be considered in meeting the criteria. In such cases, the connecting route might terminate at a point where the traffic to several terminals begins to separate.)*

The Lake Calumet terminal does not handle containerized freight. Rather, the terminal handles bulk commodities. These commodities, as noted above, totaled more than 1.1 million tons for Lake Calumet in 2008 (a low year for freight shipments). Further, traffic counts noted above indicate that truck counts exceed 100 trucks in each direction for the modified NHS freight connector.

Proposal Map

A map of the proposed modifications to the National Highway System Intermodal Connector 1 for the Water Terminal Cluster 2 – Lake Calumet - is shown as Figure 6, on the following page. The proposed modification will change the limit of this connector to 103rd Street to 122nd Street. The other connectors for this water terminal cluster, 122nd from Stony Island to Torrence Avenue and Stony Island Avenue from 130th to the gate (on the south side of Lake Calumet) are unaffected by this proposal.

Figure 6. Proposal Map

